

Image in cardiology

Severe stenosis due to prosthetic thrombosis evaluated with TrueVue

Estenosis grave por trombosis protésica evaluada con TrueVue

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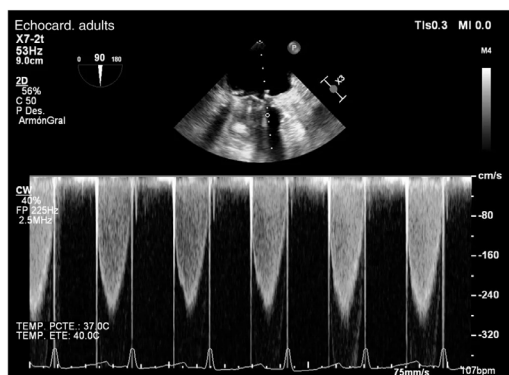


Figure 1.

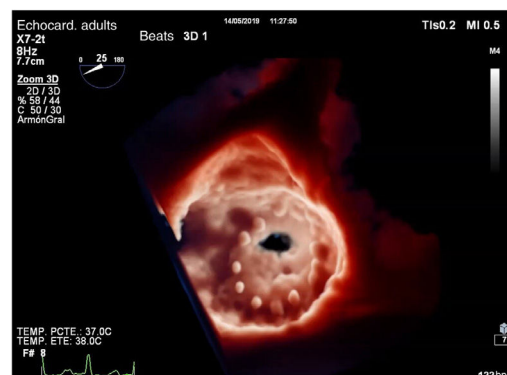


Figure 2.

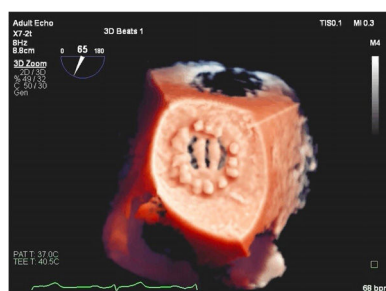


Figure 3.

A 70-year-old woman with a mechanical mitral valve (MMV) (ATS Pivot, 25 mm) since August 2018 after emergency valve replacement due to degenerative rupture of the posterior leaflet, was admitted with cardiogenic syncope. Prior to admission, the patient had been receiving anticoagulation below the target range due to a humerus fracture. On admission, transthoracic echocardiography was performed, showing a large increase in mitral valve gradients, preserved ejection fraction, and pulmonary pressure of 50 mmHg. To enable a better assessment of the MMV, transesophageal echocardiography (TEE) was performed. Complete block of the posterior disc and partial block of the anterior disc were observed, generating critical valve stenosis (average gradient 21 mmHg, maximum gradient 34 mmHg, and maximum velocity 2.9 m/s) with a continuous Doppler pattern resembling aortic flow morphology (figure 1). Images taken with 3-dimensional TEE were processed with transillumination rendering in order to improve tissue characterization and to better define contours. The presence of a large thrombus was confirmed in the posterior region of the prosthetic annulus that reduced the effective area of the MMV to 0.49 cm² (figure 2; compare with figure 3, which shows a MMV with normal function also displayed with transillumination rendering). After the case was presented to a multidisciplinary valve team, it was decided to perform emergency valve replacement surgery.

This case shows how transillumination rendering improves the characterization of valve prostheses in critical situations such as MMV thrombosis.

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Available online 17 October 2019